

DATA CHIP

Issue: 32

Newsletter of the Rochester, NY
Compucolor Users Group

Aug-Sept '82

Summer is over. Here in Rochester, the snow has begun to fall (or maybe it just seems that way). Computing season is almost upon us again. Although some people compute all the time (see the article clipped from Time magazine on page 23), your editor is primarily a foul weather computer, preferring other activities in the warm season. (No, nude sunbathing is not one of them.)

Our new librarian has been busy (see his report on page 12), and he'll be even busier - we've received 15 disks full of programs from CUVIC (Compucolor Users in Victoria, Australia) for our library. I ran a few of them last night. They're great! Our thanks to Keith Ochiltree for putting it together for us. (He's their ex-librarian.)

Doug Van Putte's 3-D graphics programs published in Colorcue a couple of issues back have been translated to Fortran by Howard Rosen; they start on page 6. Howard also has included some other routines as well, so all you Fortranners should be ecstatic. By the way, are there any FORTH people out there who'd like to write something? Jim Minor's adaptation of FORTH for the CCII has been around and distributed for some time now. Let's hear from you.

We're hearing from Jim, who's submitted an article about a neat/clean way to get single character answers to BASIC questions. (See page 3.)

Myron Steffy reports on a bug found in the program he published in DATACHIP 31 (page 15), and page 24 contains an advertisement for the Australian music synthesizer reviewed in the last issue of FORUM.

If you're clever, you've noticed that you've just read the index to this issue, with some extra verbage (ver=gar?). So be it. Onward.

Membership
Gene Bailey
28 Dogwood Glen
14625

Librarian
Doug Van Putte
18 Cross Bow Dr.
14624
(All Rochester)

Editor
Ben Barlow
161 Brookside
14618

ANNOUNCING!!!

Special series on advanced BASIC for the Compucolor

A series of 3-4 FREE sessions on advanced BASIC will be given during the regular CHIP meetings beginning in SEPT. Each session will last 20-30 minutes.

The topics will cover all aspects of BASIC from input/output to machine-language interfacing, FCS, and graphics. The first two sessions will concentrate on BASIC commands with emphasis on items buried in the Programming Manual plus items the Manual never mentioned. In addition, participants will learn how to write more efficient programs that run faster and take up less memory. Special tricks and techniques will be added to teach flexibility in programming and to allow the user to do things he never thought possible in BASIC. Participants will also be given problems to try out on their own (answers at the following session).

Following the series a complete set of notes will be available for the cost of photo-copying and postage (if applicable).

For more information contact:

Rick Taubold
197 Hollybrook Road
Rochester, NY 14623

Work phone (716) 275-5948 (anytime during the day)

Home phone (before Sept. 1): (716) 334-5228
(after Sept. 1): (716) 271-7962

SINGLE-CHARACTER ACCEPTANCE ROUTINE (SCAR)

by Jim Minor

It frequently arises in writing a program that there are instances in that program where one wishes to have the user of the program respond to a simple question. For instance,

OUTPUT TO SCREEN OR PRINTER ? _

where the 'S' in screen and the 'P' in printer are of a different color than the rest of the text or are blinking (or both) to indicate you want an 'S' or 'P' response.

The most obvious way to implement this in BASIC is with the statement:

```
1000 INPUT "OUTPUT TO SCREEN OR PRINTER ? "; A$
```

which will return (upon user entry) the user's response as the string, 'A\$'. Although simple, this has (to my way of thinking) two shortcomings:

1. The RETURN key must be struck to complete entry and for multiple entries this becomes tedious.
2. The statement does not check for nonvalid responses, e.s. in the above case what would happen in the rest of the program if "V" were entered?

These shortcomings can be overcome by writing a custom program for each input using the Last Key Code (LKC) and KeyBoard CHAracter (KBCHA) system RAM locations. However, an easier method is to append the herein-listed Single-Character Acceptance Routine to your program and invoke it as follows:

1. List the acceptable character set as a concatenated (i.e. one character following another) string, SS\$, in any order. For the example given above use SS\$="SP" or "SS\$=" "PS".
2. Print your prompt followed by a semicolon (to keep the cursor on the same line), e.s. for our example:

```
PRINT "OUTPUT TO SCREEN OR PRINTER ? ";
```

3. Invoke the subroutine via: GOSUB 50000
4. The response (S or P for this example) is returned as 'S\$' so if your program will use it as 'A\$' (or you want to save the response but still be able to call the SCAR subroutine before you're through using the previous response) then, for example, simply set A\$=S\$.

This all may be accomplished succinctly in one line, viz:

```
1000 SS$=SP:PRINT"OUTPUT TO SCREEN OR PRINTER ? ";:GOSUB 50000:A$=S$
```

The nice thing about this subroutine is that it can be used several times in different ways within a program, i.e.

```
700 SS$="012345":PRINT"ENTER SELECTION (0-5): ";:GOSUB 50000:SE$=S$
```

```
800 SS$="YN":PRINT"WILL YOU BE USING A PRINTER ? ";:GOSUB 5000:P$=S$
```

```
1000 SS$="SP":PRINT"OUTPUT TO SCREEN OR PRINTER ? ";:GOSUB 5000:SP$=S$
```

The routine works as follows. Line 50060 initializes the "valid input" flag, ST, to FALSE (i.e. 0). It then checks to see (via LKC) if a character has been entered; if not, it loops in 50070 until one is entered. Once a key has been struck, the routine (50080) sets S\$ equal to the entered character (as obtained in KBCHA). The subroutine then compares (50080-50100) the entered character with all the characters in the approved character list, SS\$. If S\$ matches any of the characters in this list, then the test flag, ST, is set TRUE (which in COMPUCOLORse is -1). If the acceptance list was exhausted without finding a match with S\$, then ST will still be FALSE and line 50120 causes the character on the screen to be erased and causes the program to loop back to wait for another (hopefully valid) input keystroke. Once a valid character has been entered (ST=-1, i.e. TRUE), then line 50130 completes the PRINTing of that line (previously thwarted by the calling program's semicolon) and the valid character is returned to the calling program as 'S\$'.

A couple of notes on usage. If your program is very long, the response time of this subroutine may be unacceptably slow and you may find it advantageous to move the subroutine to the beginning of your program (e.g. subtract 50000 from all line numbers). If your "character" list has special characters in it, use the CHR\$() function in creating SS\$. For instance, if acceptable inputs are 0, Y, 'up arrow', 'yellow', and 'blink on', then set

```
SS$ = "0Y" + CHR$(28) + CHR$(19) + CHR$(31)
```

where the numbers in the CHR\$() functions were obtained from COMPUCOLOR's "ASCII" list (cf. "COMPUCOLOR PROGRAMMING AND REFERENCE MANUAL", p. 112).

It only takes a couple of minutes to enter the subroutine and once you do I think you'll find it very easy to use.

```

50000
50010 REM    SINGLE-CHARACTER ACCEPTANCE ROUTINE (SCAR)
50020
50030 REM    SS$ = INPUT ACCEPTANCE LIST (CONCATENATED)
50040 REM    S$ = OUTPUT ACCEPTED VALUE
50050 REM    ST = INTERNAL TEST FLAG (0='FALSE', -1='TRUE')
50060 ST = 0 :REM TEST NOT MET (YET)
50070 IF PEEK(33252) = 0 GOTO 50070 :REM 'LKC' CHECK
50080 S$ = CHR$(PEEK(33278)) :REM ASSIGNMENT FROM 'KBCHA'
50090 FOR SS = 1 TO LEN (SS$)
50100     IF S$ = MID$(SS$,SS,1) THEN ST = -1
50110 NEXT SS
50120 IF NOT ST THEN PLOT 26,32,26 :GOTO 50070
50130 PRINT :REM FINISH LINE
50140 RETURN

```

ITEMS FOR SALE

KEYBOARD for CCII - standard model, good for a spare. \$80.
 Norman Johnson, S/V Bandersnatch, Stono Marina
 John's Island, S.C. 29455

CCII for sale - Mel Bomze (ad's with Colorcue stuff at other editor's house. If this is still here, it means I haven't gotten it back in time for printing. See Colorcue (Aug/Sept) or call Mel, who lives at 15 Maple Glen Lane, Nesconset, NY 11767. It's a good deal!

*The editor's
 problem
 with his
 editor!*

HOWARD ROSEN, INC.

** COMPUTERS ** PRINTERS ** SOFTWARE **

P.O. Box 434 Huntingdon Valley, Pa. 19006 phone: (215) 464-7145

August 1, 1982

Dear Doug:

I really got busy and finished the subroutines for figure drawing. When I compiled them (the five included) I called the .REL file DRWLIB.REL. The Main program which uses the subroutines must have the correct arguments in the calls to the subroutines. Each subroutine is fairly well documented regarding the arguments.

I did find an error in one of my changes to Charles Josephs program. The calls to XBAR are correct as Charles wrote them. My change was incorrect.

I am enclosing a check payable to CHIPS in the amount of \$10.00. Sign me up.

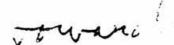
I sell the following items in addition to the ISC line:

- NEC, North Star, Televideo, ADDS, Altos computers and computer systems.
- Epson, NEC, Anadex, Okidata, Trendcom, Axiom, Integrex Color, & Computer Int'l Daisywriter printer
- ADDS, Amdek, NEC, Sango, & Televideo Monitors & Terminals
- Axlon, Hayes, & Ventel MODEMS

If any of your acquaintances have need for any item by that list of manufactures, I would be more than pleased to accomodate them in their purchase.

Keep up the exciting activity with the graphic mode of the CCII.

Sincerely yours,



Howard Rosen

```

1      C          SUBROUTINE TO INITIALIZE T-MATRIX & S1-MATRIX
2      C
3      C          AUTHOR: HOWARD ROSEN BASED ON PROGRAM BY DOUG VAN PUTTE
4      C          DATE: 4-24-82
5      C          ARGUMENTS:      TS
6      C          TS: ARRAY 4X4 FOR EITHER T OR S MATRIX
7      C

```

```

8      SUBROUTINE INITST(TS)
9      DIMENSION TS(4,4)
10     DO 2000 IR = 1,4
11     DO 2000 IC = 1,4
12     TS(IR,IC) = 0.0
13     2000 CONTINUE
14     TS(1,1) = 1.0
15     TS(2,2) = 1.0
16     TS(3,3) = 1.0
17     TS(4,4) = 1.0
18     RETURN
19     END

```

PROGRAM UNIT LENGTH=00AF (175) BYTES

DATA AREA LENGTH=000D (13) BYTES

SUBROUTINES REFERENCED:

\$L1 \$T1

VARIABLES:

TS	0001"	IR	0003"	IC	0005"
T:000000	0007"	T:010000	0009"	T:020000	000B"

LABELS:

2000L 003B'

```

1      C          SUBROUTINE TO CREATE ROTATION T-MATRIX
2      C
3      C          AUTHOR: HOWARD ROSEN BASED OF PROGRAM BY DOUG VAN PUTTE
4      C          DATE: APRIL 24, 1982
5      C          ARGUMENTS: S1,A
6      C          S1: ARRAY 3X3 FOR IDENTIFYING AXIS OF ROTATION
7      C          A:  ARRAY 3X3 CONTAINING ANGLE OF ROTATION IN DEGREES
8      C
9      SUBROUTINE ROTATE(S1,A)
10     DIMENSION I1(3),I2(3),S1(3,3),A(3),RAD(3)
11     DATA I1(1),I1(2),I1(3),I2(1),I2(2),I2(3)/1,1,2,2,3,3/
12     C
13     DO 1000 L = 1,3
14     C
15     C      CONVERT A(L) IN DEGREES TO RADIANS FOR THE COMPUTER
16     C
17     RAD(L) = A(L)*3.14159/180.0
18     IF(A(L).EQ. 0.0)GOTO 1000
19     C
20     II1 = I1(L)
21     II2 = I2(L)
22     C
23     S1(II1,II1) = COS(A)

```

```

24          S1(II1,II2) = -SIN(A)
25          S1(II2,II1) = SIN(A)
26          S1(II2,II2) = COS(A)
27      C
28      1000  CONTINUE
29          RETURN
30          END

```

PROGRAM UNIT LENGTH=0133 (307) BYTES
DATA AREA LENGTH=0036 (54) BYTES

SUBROUTINES REFERENCED:

COS	SIN	\$L1
\$MB	\$DB	\$T1
\$M9	\$NB	

VARIABLES:

S1	0001"	A	0003"	I1	0005"
I2	000B"	RAD	0011"	L	001D"
T:000000	001F"	T:010000	0021"	T:000002	0023"
II1	0024"	II2	0026"	T:020000	0028"
T:030000	002A"	T:040000	002C"	T:050000	002E"
T:060000	0030"	T:070000	0032"	T:080000	0034"

LABELS:

1000L 011D'

```

1      SUBROUTINE TIMER(SECS)
2      C
3      C  THIS SUBROUTINE PROVIDES A DELAY OF "SECS" SECONDS
4      C
5      C  VERSION:  JULY 18, 1982  JJC
6      C
7      C  INTEGER DELTA,SECS
8      C
9      C  BYTE HR,MIN,SEC
10     C
11     HR = PEEK(X'81BB')
12     MIN = PEEK(X'81BA')
13     SEC = PEEK(X'81B9')
14     C
15     C  STARTING TIME
16     STIME = 3600. * HR + 60. * MIN + SEC
17     C
18     1   HR = PEEK(X'81BB')
19     MIN = PEEK(X'81BA')
20     SEC = PEEK(X'81B9')
21     C
22     C  PRESENT TIME
23     PRESTM = 3600. * HR + 60. * MIN + SEC
24     C
25     DELTA = PRESTM - STIME
26     IF(DELTA .LT. SECS)GOTO 1
27     C
28     RETURN
29     END

```

PROGRAM UNIT LENGTH=00E9 (233) BYTES
DATA AREA LENGTH=0015 (21) BYTES

SUBROUTINES REFERENCED:

PEEK	\$L1	\$MA
\$T1	\$AB	\$AA
\$SB	\$CH	

VARIABLES:

SECS	0001"	DELTA	0003"	HR	0005"
MIN	0006"	SEC	0007"	STIME	0008"
T:000001	000C"	PRESTM	0010"	T:000002	0014"

LABELS:

1L 005A'

```
1      C          SUBROUTINE TO PLOT TRANSFORMED OBJECT (P')
2      C
3      C
4      C          AUTHOR: HOWARD ROSEN - BASED ON PROGRAM BY DOUG VAN PUTTE
5      C          DATE: 4-24-1982
6      C
7      C          ARGUMENTS: DISPLY,NPTS,LNR,NR,OFFSTX,OFFSTY
8      C          DISPLY:      THE P MATRIX
9      C          NPTS:      NUMBER OF POINTS PER AXIS TO BE DISPLAYED
10     C          LNR:      LAST NUMBER RECORDED
11     C          NR:      NUMBER OF RECORDS FOR P
12     C          OFFSTX:      X-DISPLACEMENT FROM X = 0
13     C          OFFSTY:      Y-DISPLACEMENT FROM Y = 0
14     C
15     SUBROUTINE PLOT(P,DISPLY,NPTS,LNR,NR,OFFSTX,OFFSTY)
16     BYTE PMODE,VECTOR,ENDPLT,DISPLY(4,NPTS),OFFSTX,OFFSTY,X,Y
17     DATA PMODE,VECTOR,ENDPLT/2,242,255/
18     C
19     X = DISPLY(1,1) + OFFSTX
20     Y = DISPLY(2,1) + OFFSTY
21     C
22     WRITE(3)PMODE,X,Y,VECTOR
23     C
24     DO 1000 IC = 2,LNR
25     X = DISPLY(1,IC) + OFFSTX
26     Y = DISPLY(2,IC) + OFFSTY
27     WRITE(3)X,Y
28     1000 CONTINUE
29     WRITE(3)ENDPLT
30     M=LNR + 1
31     C
32     X = DISPLY(1,M) + OFFSTX
33     Y = DISPLY(2,M) + OFFSTY
34     WRITE(3)PMODE,X,Y,VECTOR
35     C
36     DO 2000 IC = M,NR
37     X = DISPLY(1,IC) + OFFSTX
38     Y = DISPLY(2,IC) + OFFSTY
39     WRITE(3)X,Y
40     C
41     2000 CONTINUE
```

```

42          WRITE(3)ENDPLT
43          RETURN
44          END

```

PROGRAM UNIT LENGTH=0197 (391) BYTES
DATA AREA LENGTH=0024 (36) BYTES

SUBROUTINES REFERENCED:

```

$I2          $AT          $W2
$ND

```

VARIABLES:

```

DISPLY      0001"          NPT      0003"          LNR      0005"
NR          0007"          OFF TX   0009"          OFFSTY   000B"
PHODE       000D"          VEC DR   000E"          ENDPLT   000F"
X           0010"          Y        0011"          IC       0018"
T:000000    001A"          M        001C"

```

LABELS:

```

1000L      0090'          2000L      0155'

1          C              SUBROUTINE TO MULTIPLY T-MATRIX * P-MATRIX
2          C              AND TO
3          C              CONSTRUCT A COMPOSITE TRANSFORM T-MATRIX
4          C
5          C              AUTHOR: HOWARD ROSEN - BASED ON PROGRAM BY DOUG VAN PUTTE
6          C              DATE: 4-24-1982
7          C
8          C              ARGUMENTS: NR,JFLAG,ARRAY1,ARRAY2
9          C              NR:      FOR T*P; NUMBER OF RECORDS FOR P
10         C              JFLAG:  SET TO 0 FOR T*P; SET TO 1 FOR S*T (COMPOSITE T)
11         C              ARRAY1:  T-MATRIX FOR T*P; S-MATRIX FOR S*T
12         C              ARRAY2:  P-MATRIX FOR T*P; T-MATRIX FOR S*T
13         C              S:      SCALE FACTOR
14         C
15         C              T-MATRIX IS A 4X4 MATRIX FOR TRANSFORMING THE P OR S MATRIX
16         C              P-MATRIX IS A 4XNR MATRIX REPRESENTING THE OBJECT
17         C              S-MATRIX IS A 4XNR MATRIX FOR SCALING
18         C              ARRAY3 IS A 4XNR TRANSFORMED P-MATRIX
19         C
20         C              SUBROUTINE TMATRX(NR,JFLAG,ARRAY1,ARRAY2,S,ARRAY3,SCALE)
21         C              DIMENSION ARRAY1(4,4),ARRAY2(4,NR),S(4,NR),ARRAY3(4,NR)
22         C
23         C              DO 2000 I = 1,4
24         C              DO 2000 J = 1,NR
25         C              SUM = 0.0
26         C              DO 1000 K = 1,4
27         C
28         C              MATRIX ARITHMETIC IS THE SUM OF THE PRODUCTS OF A GIVEN ROW, COLUMN
29         C              COMBINATION. EACH COMBINATION IS A SUM AND LATER BECOMES AN ELEMENT
30         C              OF ARRAY3, THE TRANSFORMED P-MATRIX.
31         C
32         C              SUM = SUM + ARRAY1(I,K) * ARRAY2(K,J)
33         C              1000 CONTINUE
34         C              IF(JFLAG .EQ. 0)GOTO 1500
35         C              TEST = SUM**2
36         C

```

```

37      C NO POINT LETTING ANY ELEMENT OF THE ARRAY BECOME TOO SMALL.
38      C
39          IF( TEST .LT. 0.0001)SUM = 0.0
40      1500  ARAY3(I,J) = SUM
41      2000  CONTINUE
42      C
43          DO 3000 I = 1,4
44          DO 3000 J = 1,NR
45          DUMMY = ARAY3(I,J)
46          EINTA = (DUMMY + 0.5)/SCALE
47          INTA = IFIX(EINTA)
48          ARAY3(I,J) = FLOAT(INTA)
49      3000  CONTINUE
50          RETURN
51          END

```

PROGRAM UNIT LENGTH=01AD (429) BYTES
DATA AREA LENGTH=002E (46) BYTES

SUBROUTINES REFERENCED:

IFIX	FLOAT	\$AT
\$L1	\$T1	\$MB
\$AB	\$EA	\$SB
\$DB		

VARIABLES:

NR	0001"	JFLAG	0003"	ARRAY1	0005"
ARRAY2	0007"	S	0009"	ARRAY3	000B"
SCALE	000D"	I	000F"	J	0011"
SUM	0013"	K	0017"	T:000000	0019"
T:010000	001B"	T:020000	001D"	T:000002	001F"
TEST	0020"	DUMMY	0024"	EINTA	002B"
INTA	002C"				

LABELS:

2000L	00FC'	1000L	007F'	1500L	00B0'
3000L	017F'				

SECOND CHIP LIBRARIAN'S FIRST OFFICAL STATUS REPORT

by

Doug Van Putte

As your new librarian, I wish to begin my first report by SALUTING David Suits, your retired librarian, for his many creative contributions. Dave leaves us for other contributions with a library with good content, a sound system, and things under control. Thanks from the entire CHIP membership, Dave.

My practice will be to create a number of disks with topics and fill in the blanks with appropriate programs as they arrive. Most of the new disk content comes from David's holding file, a number of which came from the 40 Intecolor disks our group received from a donor who will remain anonymous. Since only about 10 of these disks have been converted to single density, we can only guess at what other gems await us. There is an established practice for conversion, so I challenge each of you to get the instructions from Gene Bailey and convert some of this collection for the CHIP group. I will categorize and add them to the library. My thanks to my able assistant, Rick Taubold, for debussing and assessing some of the new programs.

Other programs on the new disks are from both domestic and foreign members who contributed them as they made requests. Review the new disks under development and contribute one of yours to an unfinished disk. I can't promise that they will all be incorporated, but think of the expansion possibilities if I set contributions with each request.

The completed disks listed below are available forthwith. Please ask for complete disks, not programs. Supply me with your formatted disks and First Class or Air Mail postage along with your request. Otherwise send a \$5 check, payable to CHIP, for each disk request not accompanied by a disk. The partial disks under development will be available as soon as I get the necessary contributions. Look for an update of the library listing in a future DATA CHIP. You see, new material really does depend upon you! Complete library listings are also available on request. Send a self addressed, stamped envelope to assist me in replying quickly.

Since CHIP has officially embraced NEC as well as INTECOLOR, I look forward to having library assistants in both areas. Any volunteers? We have been offered assistance in program conversion in either direction if incentive is needed.

Make sure you are a member of good standing when you send a request. If your membership has expired (it has if you have not antied-up in 1982), or you wish to become a new member, include a check for \$10, payable to CHIP, with your request.

DISK 54 Games (Complete)

RUBIC'S CUBE. This cube program solves your cubes as well as plays the game. This is Roger Safford's program from v.4, #6, COLORCUE.

CANYON. Another Safford program which requires you to build a bridge over a canyon.

TEASER. Solve the 3*3 Square. R. Safford.

KENO. Some say it's just like the casino game.

DISK 55 Utilities (Complete)

MULTI-COPY DISK COPIER (32K). Copy the same disk many times without a hassle. J.J. Charles.

LIST DIRECTORIES ON PINTER. For a concise, hard summary of a set of directories. J.J. Charles.

DIRECTORY ALPHABETIZATION. Losing track of the location of a seldom used program? J.J. Charles helps you get organized.

TINYC PLOT FUNCTIONS. Tom Montemarano gives us Basic plot functions in TINYC. A BASIC file explains all.

SCREEN SAVE UTILITY. A display manager by A. Groszono

DISASSEMBLER. A BASIC program with different features, including a printer version.

LABEL. A simple label maker for one vertical set of labels. Could be easily expanded.

DISK 56 Educational (Under development)

3-D OBJECT MANIPULATION. From COLORCUE v.4, #4, this program demonstrates the basic operations of manipulating 3-D objects. You can substitute your own object. D. Van Putte.

STARS. Plots the relationship of stars in space. Converted from PERSONAL COMPUTING by J.J. Charles Jr. & Sr.

MATRIX INVERSION. A FORTRAN program converted to BASIC by J.J. Charles to invert a matrix. Includes an example.

CALCULATOR. An RPN calculator simulator. 6/78 & 8/79

DISK 57 Business (Under development)

ANNUITY CALCULATION. Calculates the value of an annuity for each year for 30 years considering both the interest rate and the inflation rate. J.J. Charles.

NEW ANNUITY. Fred Hudson's program helps you determine the unknown interest rates of competing annuities.

DISK 58 Novelty (Under development)

CRYPTOGRAM AID. Need to decipher a coded message? R. Safford's program may help you find the treasure.

HORSE RACE ANALYZER. Bet on the horses? This gem by John Poremba considers more than chance. By the way, no warranty of success of any kind is implied if you use this program.

COCKTAIL RECIPES. Types of beverages, ingredients, and tips are included in this CCII adaptation by R. Cowlins.

DISK 59 Games (Complete)

ADVENTURE. Revised edition of DISK 20.
WUMPUS II. Revised edition of WUMPUS on DISK 3.
COVER. Demonstrates use of dual Joysticks. S. Perriso.
JOYSSNAKES. Snakes for two Joysticks. S. Perriso.
SOUND. Sound Patch for JOYSSNAKES. From S. Perriso.

DISK 60 Games (Under Development)

SPACE WAR. Unknown piece for digital Joysticks.
ACEY DUCEY. CCII version of the card game by J. Van Loan
from CREATIVE COMPUTING.
PYRAMID SOLITAIRE. A Don Miller card game.
ANDROID ELIMINATION(32K). Outsmart the computer in 'rubbing
out' the androids. Clever animation by M.J. Allen.
BREAKOUT. CCII prg. version of this venerable game.

DISK 61 FORTRAN Utilities* (Complete)

3-D OBJECT PLOT. Subroutines for object rotation and plotting
in a demo program. D. Van Putte.
PLOT LIBRARY. BASIC plotting commands converted to FORTRAN 80
subroutines by J.J. Charles.
PLOT LIBRARY DEMO. A clever demo, by J.J. Charles, of his
plot subroutines. Might convert you to FORTRAN 80...
*You can run the prg. programs & review the src. files on
this disk without having the compiler.

Myron T. Steffy
10833 Brookside Drive
Sun City, Arizona 85351

July 10, 1982

Ben Barlow
161 Brookside Drive
Rochester, N.Y. 14618

Dear Ben:

Leave it to someone else to find a possible booby trap in one of your programs! Tom Devlin reported that my 'Jumper' wouldn't 'Run' from a Menu. I have several different menu programs here which seemed to be all right. The one he was using I had never seen before and has no name but it is a good one with several options.

As it was one of those that wouldn't 'list' with the usual command, I had to do a little snooping around with Linden's gem, 'The Basic Editor'. I found a bunch of imbedded control codes and other esoteric stuff but the real culprit was that it left the keyboard locked up.

To make 'Jumper' a little more foolproof, add these three lines in the startup routine after 'SHLD 80ACH':

XRA	A	
STA	81DFH	;KEYBOARD FLAG
STA	81FEH	;KEYBOARD CHARACTER

They are marked with an asterisk on the enclosed printout of the source code.

I probably should have had these commands in the startup from the beginning but never noticed their absence as I usually hook 'Jumper' onto any program that goes into 4000H. This takes care of the 'ins and outs'.

Congratulations on your usual fine job on the latest issue (April-May) of 'COLORCUE'. I enjoy Dave Suits' stuff no end and he usually manages to remind me of something I have forgotten.

Sincerely yours,



Myron T. Steffy

```

;      'JUMPER' ROUTINE FOR ADDITIONAL ESCAPE LOCATIONS
;      by Myron T. Steffy,  Sun City, Arizona 85351 7/10/82
;=====

```

```

      READY    EQU      81FFH
      ESC1     EQU      053AH
      OSTR     EQU      33F4H
      KEYTST   EQU      0024H

      ORG      0FD00H

START:  LXI      H,00H
      DAD      SP
      SHLD     FCSSP
      LXI      SP,STACK
      MVI      A,0C3H
      STA      81BFH
      LXI      H,START
      SHLD     81C0H          ; ESCAPE ^ (USER)
      LXI      H,START-1
      SHLD     80ACH          ; PROTECT THIS PROGRAM
      XRA      A              ; *
      STA      81DFH          ; * KEYBOARD FLAG
      STA      81FEH          ; * KEYBOARD CHARACTER

QUERY:  LXI      H,MSG01
      CALL     OSTR
      CALL     GETANS
      CPI      27             ; ESCAPE ?
      JNZ      QUEST
      CALL     GETANS
      CPI      'T'            ; ESC T  8200H
      JZ       8200H
      CPI      'I'            ; ESC I  9000H
      JZ       9000H
      CPI      'S'            ; ESC S  A000H
      JZ       0A000H
      CPI      'P'            ; ESC P  4000H
      JZ       4000H
      CPI      'Z'            ; ESC Z  4800H
      JZ       4800H
      CPI      '\ '           ; ESC \  5000H
      JZ       5000H
      CPI      ']'            ; ESC ]  5800H
      JZ       5800H
      CPI      'U'            ; ESC U  USER, EB00H (DEBUG32)
      JZ       0EB00H
      CPI      'V'            ; ESC V  E000H
      JZ       0E000H
      CPI      '['            ; ESC [  F500H
      JZ       0F500H
      CPI      'D'            ; ESC D  RETURN TO FCS
      JMP      EXIT

QUEST:  CALL     GTD01
      STA      NEWADR+2        ; LOW BYTE OF JUMP
      CALL     GTDEST
      STA      NEWADR+1        ; HIGH BYTE
NEWADR: JMP      EXIT

```

```

GTDEST: CALL      GETANS
GTD01:  CALL      LET      ;FIRST CHARACTER OF BYTE
        RLC
        RLC
        RLC
        RLC      ;MULTIPLY BY 16
        MOV      B,A      ;STORE IT TEMPORARILY
        CALL     GETANS
        CALL     LET      ;SECOND CHARACTER OF BYTE
        ADD      B
        RET

LET:    CPI      'F'+1    ;CHECK FOR HEX CHARACTER
        JNC      DIG
        CPI      'A'      ;LOW END OF HEX LETTERS
        CMC
        JC       FIXLET
DIG:    CPI      '9'+1    ;CHECK FOR NUMERAL
        JNC      ERMSG
        CPI      '0'      ;LOW END OF NUMERALS
        CMC
        JC       FIXDIG
        JMP      ERMSG    ;IF NONE OF THESE, ERROR!

FIXLET: SUI      37H      ;CONVERT ASCII TO ALPHABETIC
        RET

FIXDIG: SUI      30H      ;CONVERT ASCII TO DECIMAL
        RET

GETANS: MVI      A,32H    ;WAIT FOR ONE CHARACTER
        STA      READY
GETCHA: CALL     KEYTST
        JNZ      GETCHA
        RET

ERMSG:  LXI      H,MSG02  ;PRINT ERROR MESSAGE
        CALL     OSTR
        JMP      QUERY    ;START OVER

EXIT:   LXI      H,MSG03
        CALL     OSTR
        LHLD     FCSSP
        SPHL
        MVI      A,44H
        JMP      ESC1

MSG01:  DB 15,13,10,10,19,9,'ENTER ',21,'ESC ',18,'plus '
        DB 'vector character ',17,9,'OR'
        DB 15,13,10,10,19,9,'ENTER JUMP ADDRESS IN HEX: '
        DB 18,239
MSG02:  DB 17,13,10,10,9,'ERROR, NOT A HEX DIGIT.',18,239
MSG03:  DB 11,28,28,11,239

FCSSP:  DW      01H
        DS      40H

STACK:

        END      START

```

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BEN BARLOW	ROCHESTER, NY	14618	3852969				

Here's the latest list of CHIP members. If you have neighbors or acquaintances that you don't see above (who **should** be there, but forgot to pay their dues), give them a hint.

LIBERATE YOUR COMPUCOLOR!

Or: Everything You Always Wanted to Know About
Basic but Microsoft Wouldn't Tell You!

Most readers are aware that Disk Basic and FCS live in read-only memory (ROM). Some may have worked with assembly code, but when one gets grand visions of writing a compiler or Pac-Man game, the novice cringes with fear. Problem: how to access all those nifty routines that Basic uses? Neither Microsoft nor ISC supplies much documentation regarding Basic's inner workings. Ideally, a good source listing of Basic would be available. But paranoia reigns at uSoft; invaluable information is kept secret, thus frustrating many potential 8080-code hackers.

If people are interested, I propose that we make available an accurate disassembly of Basic, including a cross-reference table of hex addresses. From this, it should be possible to identify specific routines and how to use them outside of Basic (e.g. I/O, floating point routines). I guess members would share discoveries. If even a few members would like to work on such a project it might be feasible to have a separate newsletter (call it "CompuPeeking," what else?)

Ben Barlow has a trace program that sounds like a good start towards this goal. Presumably one could eventually develop a semi-compiled Basic that might only need 3-4K user RAM, yet could run several times faster than normal Basic.

All ideas are welcome!

Ben Moser
Rt. 2, Box 550
Stanley, VA 22851

P.S.-- I might be able to "publish" a newsletter and/or be a clearinghouse. Subscriptions would be cheap.....? Just hope the Xerox machine in the town library doesn't break down.....

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July 1, 1982

If you are interested in starting a business, and need some customers, this may be a place to find them. If you want to start a newsletter, this may be a good source for an initial mailing.

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On the other hand, if you want to receive mail, fill out and mail this form to have your name added to one or more of the lists listed on the preceeding page. (I got this information in the mail, addressed to the Group, and thought it may be of interest.)

3rd ANNUAL ROCHESTER COMPUTER FAIR Sunday, October 21 noon-6 pm U of R Wilson Commons

See exhibits and demonstrations by stores, manufacturers, software houses, clubs, professional societies, and individuals.

Attend seminars on the use of computers in education, business, and the home.

Get your hands on a computer!

22

Everyone welcome. Registration: only 50¢ per person.

Presented by Computer Access (the federation of Rochester-area computer groups) and the University of Rochester Graduate School of Education and Human Development.

The Real Apple of His Eye

How families come apart in the face of the micro invasion

When Advertising Executive Todd Lief, 47, gave up his four-pack-a-day cigarette habit a few years ago, he put aside his tobacco money to buy an Apple computer. His wife Jo, 44, a Chicago family therapist, supported the idea. At least at first. Then she discovered that computers, like cigarettes, can be habit forming. "He really got into it," she says. "After a while, I felt angry—abandoned. On a sunny, beautiful day he would sit at the computer for eight hours straight."

Fortunately, Jo has been able to adjust to her husband's obsession. While Todd fiddles with the keyboard, she goes out with friends, gabs on the phone or just immerses herself in a bubble bath. Says she: "It gives me more time to do what I want to do. I'm glad to have the independence." But their case may be a happy exception. Throughout the nation, thousands of couples who have survived *Monday Night Football*, jogging and the ERA debate are facing a trickier challenge. The computer that they were told would bring the family closer together may now be driving them apart. Says San Diego Psychologist Thomas McDonald: "They're beginning to realize they're losing their spouses to a machine."

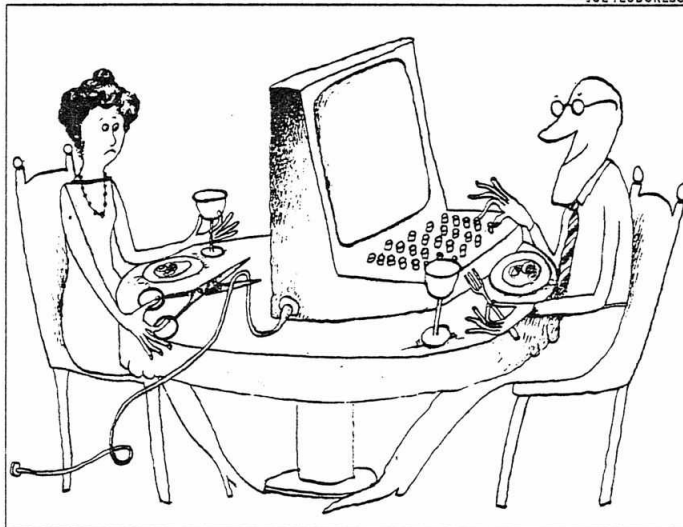
McDonald has seen enough computer-related distress in the past two years to design psychological tests to sell to companies that want to spot victims of the new ailment. According to McDonald, the sufferers are trying to keep up with machines that never sleep and never deviate from perfect linear logic. "Since human relations are neither linear nor logical," he says, "they grow increasingly isolated from their families and the whole feeling world."

The complaint strikes hardest among top programmers and systems managers. Among the first signs: a cavalier attitude toward eating schedules and a leaning toward late-night emergencies at the office. "Often I'd tell my wife I'd be home for dinner at 5 o'clock, but the next thing I knew, it was 8," recalls Bob Fagan, a San Diego data-processing professional. "I was so locked into the technology, so out of touch with the emotional part of marriage, that when we finally separated, it was like a freight train coming through our living room. I was not prepared."

At times, Connie Washam, 32, has nearly given up on her husband Gary, marketing director for a San Diego com-

puter graphics firm. "We don't plan on him for dinner," she says. "We don't plan on him for anything. He's kind of a drop-in guest." Says Gary in his defense: "I'm in a double bind. The computer gives me immediate rewards. I get positive strokes every time I solve a problem. On the other hand, I enjoy being with my family. But if you spend too much time with them, you lose your edge in the computer industry."

Jerry Gallagher of White Plains, N.Y., finds himself, at 48, in the midst of divorce proceedings. He has been married 21 years, is the father of three children and vice president of a company that



makes portable computers. He feels the complexity of the technology contributed to his alienation from his family: "It bothers me when I tell my wife we can go to 256K bytes of memory and it means nothing to her. I don't want to be sexist, but women don't understand."

Surprisingly, Gallagher's analysis is shared by many professionals. "Computers and video games are clearly sexist," says Stanford Psychologist Philip Zimbardo. "The programs feed into the learned differences between men and women, like mathematics and engineering." Zimbardo believes that increased sales of home computers could spread addiction and its attendant vexations. "As more people get involved with computers in their everyday lives," he warns, "we are likely to see more of these problems in the general population."

Right now there are almost 2 million personal and home computers in the U.S., and manufacturers will ship nearly 2 million more this year. One company alone, Timex, is turning out copies of its \$99.95 computer at the rate of one machine every

ten seconds. As a rule of thumb, Columnist Art Buchwald has suggested, "For every home computer sold in America, there is a computer widow somewhere."

"Sports widow, computer widow, you name it, that's me," says Actress Elaine Grant, 25. Three months ago, her husband brought home a \$250 Commodore VIC 20. "I have to laugh sometimes," she says. "When friends come, Jerry immediately drags them over to show them the computer. Some may actually understand what's going on, but most just stand there and smile and can't wait to get away." Jerry, 42, a violinist with the Boston Symphony Orchestra, and his son David, 9, now while away the hours playing games, composing music and deciphering complex programs. "Jerry has begged me to show some interest," Elaine confesses, "but I can't. It's ugly. It makes obnoxious noises. It has about 80 zillion things stuck to the back of the TV. Hair dryers self-destruct in my hands, so why should I touch the computer?"

Many women, rather than join the computer revolution, have hammered out peace pacts with their mates. In Palo Alto, Calif., a woman who spent five years with an Atari programmer finally imposed a 15-minute limit on uninterrupted talk about his work. In Atlanta the wife of a former camera bug who switched to home computers uses travel to protect their relationship. Says she: "I insist that we go to our place at the lake every weekend to get him away from the computer."

That would not have stopped Bart Voyce. He takes his portable computer nearly everywhere, from a New Year's Eve party to the roof of his Newark apartment building, where he mixes programming with nude sunbathing. He threatened to bring it along on his honeymoon. "I'm kind of patient," says Lisa, his wife of two months, "but after a while, it gets annoying. He'll be programming for hours, and I'll be staring at his back. I finally got involved in computers just to keep up. You can't let a machine come between you."

Says Stanford's Zimbardo: "As corny as it sounds, we need to re-establish family rituals, such as family meals with meaningful conversation." Even the most hard-nosed software freak will agree in principle, but sometimes it is not easy. "I'd sell my computer before I'd sell my children," deadpans *Atlantic Monthly* Editor James Fallows, who happily traded in his typist for his word processor, "but the kids better watch their step."

—By Philip Fafflick.

Reported by Robert T. Grieses/New York and Joseph Pilcher/Los Angeles

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